

METHOD FOR ASSAYING CLUSTERED DNA DAMAGES

Abstract of the Disclosure

Disclosed is a method for detecting and quantifying clustered damages in DNA. In this method, a first aliquot of the DNA to be tested for clustered damages with one or more lesion-specific cleaving reagents under conditions appropriate for cleavage of the DNA to produce single-strand nicks in the DNA at sites of damage lesions. The number average molecular length (L_n) of double stranded DNA is then quantitatively determined for the treated DNA. The number average molecular length (L_n) of double stranded DNA is also quantitatively determined for a second, untreated aliquot of the DNA. The frequency of clustered damages (Φ_c) in the DNA is then calculated.